

Solving Using the Quadratic Formula:

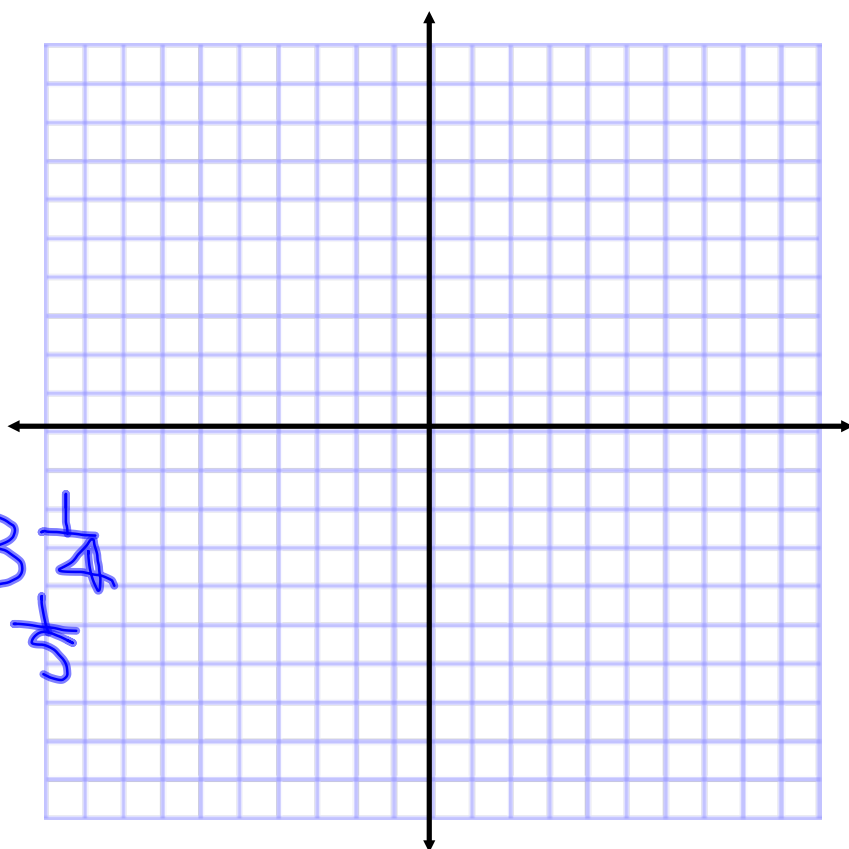
1. $-1 + 3x^2 = 2x$

Graph:

2. $y = \frac{1}{2}x^2 - x + 1$

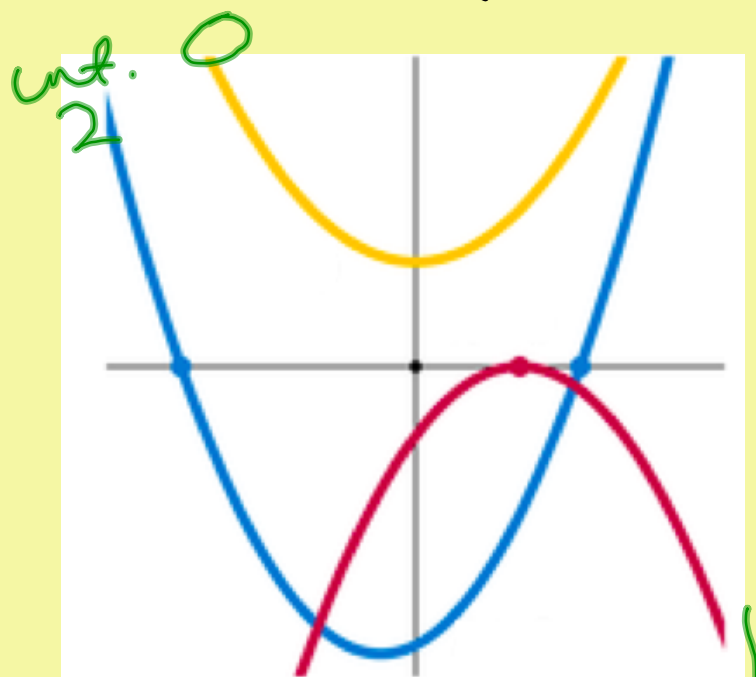
X	Y
-1	$2\frac{1}{2}$
0	1
1	$\frac{1}{2}$
2	1
3	$2\frac{1}{2}$

\therefore



9.6 Applications of the Discriminant

$$b^2 - 4ac$$



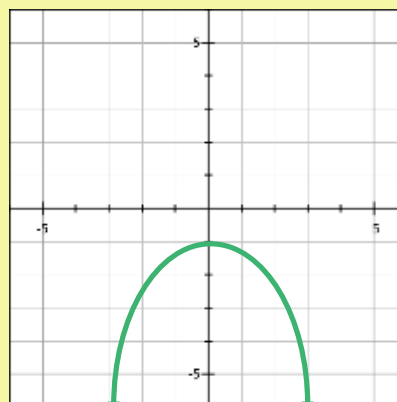
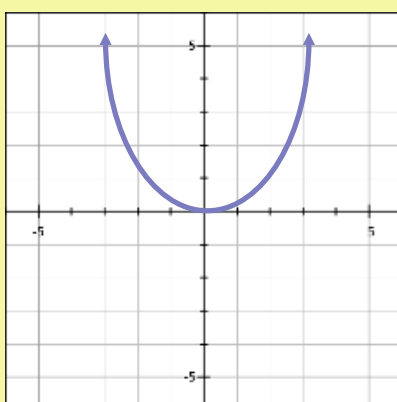
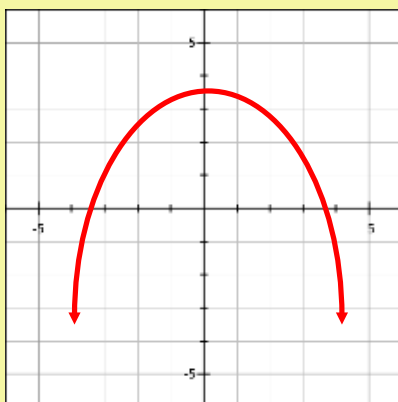
Number of Solutions

Number of x-intercepts

IF $b^2 - 4ac > 0$ 2 solutions

IF $b^2 - 4ac = 0$ 1 solution

IF $b^2 - 4ac < 0$ 0 solutions



Find the value of the discriminant. Use the discriminant to tell the number of solutions & the number of x-intercepts.

$$b^2 - 4ac$$

1. $x^2 - 2x + 4 = 0$

$a = 1$ $b = -2$ $c = 4$

2. $-3x^2 - 1 = -5x$

13

-12

3. $-x^2 - 10x - 25 = 0$